

CLAIMS

A Sub B2
1. A digital AV data transmitting unit comprising
~~at least:~~

data significance deciding means for deciding the
significance degree of digital AV data;

transmitting-side plurality-of-authentication-
rules storing means storing a plurality of types of
authentication rules;

transmitting-side authentication selecting means
for selecting one type of rule from the transmitting-side
plurality-of-authentication-rules storing means in
accordance with a decision result by the data
significance deciding means when receiving an
authentication request; and

transmitting-side authenticating means for
performing authentication in accordance with the
selected authentication rule.

2. A digital AV data receiving unit for
communicating with a digital AV data transmitting unit
having at least data significance deciding means for
deciding the significance degree of digital AV data,
transmitting-side plurality-of-authentication-rules
storing means storing a plurality of types of
authentication rules, transmitting-side authentication

selecting means for selecting one type of rule from the transmitting-side plurality-of-authentication-rules storing means in accordance with a decision result by the data significance deciding means when receiving an authentication request, and transmitting-side authenticating means for performing authentication in accordance with the selected authentication rule; the digital AV data receiving unit comprising at least:

authentication requesting means for requesting the authentication;

receiving-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means;

receiving-side authentication selecting means for selecting the same authentication rule as the predetermined authentication rule selected by the transmitting-side authentication selecting means from the receiving-side plurality-of-authentication-rules storing means; and

receiving-side authenticating means for performing authentication at the receiving side in accordance with the selected authentication rule.

3. A digital AV data transceiving system comprising:

a digital AV data transmitting unit having at least data significance deciding means for deciding the significance degree of digital AV data, transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules, transmitting-side authentication selecting means for selecting one type of rule from the transmitting-side plurality-of-authentication-rules storing means in accordance with a decision result by the data significance deciding means when receiving an authentication request, and transmitting-side authenticating means for performing authentication in accordance with the selected authentication rule; and

a digital AV data receiving unit having at least authentication requesting means for requesting the authentication, receiving-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means, receiving-side authentication selecting means for selecting the same authentication rule as the predetermined authentication rule selected by the transmitting-side authentication

selecting means from the receiving-side plurality-of-authentication-rules storing means, and receiving-side authenticating means for performing authentication at the receiving side in accordance with the selected authentication rule.

A 4. A digital AV data transmitting unit comprising ~~at least:~~

data significance deciding means for deciding the significance degree of digital AV data;

control criterion storing means storing a predetermined control criterion; control-criterion reference deciding means for deciding whether to refer to the control criterion in the control criterion storing means in accordance with a decision result by the data significance deciding means when receiving an authentication request;

authentication deciding means for deciding whether to perform authentication in accordance with the control criterion or deciding the type of authentication by referring to the control criterion in accordance with the decided result; and

authenticating means for performing authentication in accordance with the decision by the authentication deciding means and a predetermined authentication rule.

5. The digital AV data transceiving system according to claim 3, wherein the transmitting unit has the functions of the receiving unit and the receiving unit has the functions of the transmitting unit.

6. The digital AV data transceiving system according to claim 5, wherein three or more of the transmitting units having the functions of the receiving unit or three or more of the receiving units having the functions of the transmitting unit are connected each other so that digital AV data can be transferred each other.

7. A digital AV data transmitting unit comprising ~~at least:~~

transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules;

unit authentication rule information receiving means for receiving the information for one type of authentication rule owned by a digital AV data receiving unit;

transmitting-side authentication rule fetching means for fetching an authentication rule owned by the digital AV data receiving unit from the transmitting-side plurality-of-authentication-rules storing means in accordance with the information for the

authentication rule received by the unit authentication rule information receiving means; and

transmitting-side authenticating means for performing the authentication in accordance with the fetched authentication rule.

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8. A digital AV data receiving unit for communicating with a digital AV data transmitting unit having ~~at least~~ transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules, unit authentication rule information receiving means for receiving the information for one type of authentication rule owned by the digital AV data receiving unit, transmitting-side authentication rule fetching means for fetching an authentication rule owned by the digital AV data receiving unit from the transmitting-side plurality-of-authentication-rules storing means in accordance with the information for the authentication rule received by the unit authentication rule information receiving means, and transmitting-side authenticating means for performing the authentication in accordance with the fetched authentication rule; the digital AV data receiving unit comprising at least:

authentication requesting means for requesting the authentication;

receiving-side authentication rule storing means for storing one type of the authentication rule of its own;

authentication rule information transmitting means for transmitting the information for the authentication rule; and

receiving-side authenticating means for performing authentication in accordance with the authentication rule between this authenticating means and the transmitting unit.

9. A digital AV data transceiving system comprising:

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a digital AV data transmitting unit having ~~at least~~ transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules, unit authentication rule information receiving means for receiving the information for one type of authentication rule owned by the digital AV data receiving unit, transmitting-side authentication rule fetching means for fetching an authentication rule owned by the digital AV data receiving unit from the transmitting-side plurality-of-authentication-rules storing means in accordance with the information for the authentication rule received by the unit authentication rule information

receiving means, and transmitting-side authenticating means for performing the authentication in accordance with the fetched authentication rule; and

a digital AV data receiving unit having at least authentication requesting means for requesting the authentication, receiving-side authentication rule storing means for storing one type of the authentication rule of its own, authentication rule information transmitting means for transmitting the information for the authentication rule, and receiving-side authenticating means for performing authentication in accordance with the authentication rule between this authenticating means and the transmitting unit.

10. A digital AV data transmitting unit comprising ~~at least:~~

control criterion storing means storing a predetermined control criterion;

control-criterion reference deciding means for deciding whether to refer to the control criterion in the control criterion storing means in accordance with the type or significance degree of a digital AV data receiving unit when receiving an authentication request from the digital AV data receiving unit;

authentication deciding means for deciding whether to perform authentication in accordance with the control

criterion or deciding the type of authentication by referring to the control criterion in accordance with the decided result; and

authenticating means for performing authentication in accordance with the decision by the authentication deciding means and a predetermined authentication rule.

11. The digital AV data transmitting unit according to claim 4 or 10, wherein the control criterion is a reference list (CRL) capable of identifying an illegal or legal digital AV data receiving unit.

12. The digital AV data transceiving system according to claim 9, wherein two or more of the receiving units are connected to the transmitting unit so that digital data can be transferred between the transmitting unit and the receiving units.

13. A digital AV data transmitting unit comprising ~~at least:~~

transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules;

data significance deciding means for deciding the significance degree of digital AV data;

transmitting-side authentication selecting means for selecting one type of authentication rule from the transmitting-side plurality-of-authentication-rules

storing means in accordance with a decision result by the data significance deciding means;

unit authentication rule information receiving means for receiving the information for one type of authentication rule owned by single-authentication digital AV data receiving unit;

transmitting-side authentication fetching means for fetching an authentication rule owned by the single-authentication digital AV data receiving unit from the transmitting-side plurality-of-authentication-rules storing means in accordance with the information for the authentication rule received by the unit authentication rule information receiving means; and

transmitting-side authenticating means for performing authentication in accordance with an authentication rule obtained from the transmitting-side plurality-of-authentication-rules storing means or the transmitting-side authentication fetching means.

14. A digital AV data transceiving system comprising:

a digital AV data transmitting unit having at least transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules, data significance deciding means

for deciding the significance degree of digital AV data, transmitting-side authentication selecting means for selecting one type of authentication rule from the transmitting-side plurality-of-authentication-rules storing means in accordance with a decision result by the data significance deciding means, unit authentication rule information receiving means for receiving the information for one type of authentication rule owned by single-authentication digital AV data receiving unit, transmitting-side authentication fetching means for fetching an authentication rule owned by the single-authentication digital AV data receiving unit from the transmitting-side plurality-of-authentication-rules storing means in accordance with the information for the authentication rule received by the unit authentication rule information receiving means, and transmitting-side authenticating means for performing authentication in accordance with an authentication rule obtained from the transmitting-side plurality-of-authentication-rules storing means or the transmitting-side authentication fetching means;

a plurality-of-authentications digital AV data receiving unit having at least authentication requesting means for requesting the authentication, receiving-side plurality-of-authentication-rules storing means

storing the plurality of types of authentication rules same as those stored in the transmitting-side authentication rule storing means, receiving-side authentication selecting means for selecting an authentication rule same as the predetermined authentication rule selected by the transmitting-side authentication selecting means from the receiving-side plurality-of-authentication-rules storing means, and receiving-side authenticating means for performing authentication in accordance with the authentication rule selected by the receiving side; and

a single-authentication digital AV data receiving unit having at least authentication requesting means for requesting authentication, receiving-side single-authentication rule storing means for storing one type of authentication rule of its own, authentication rule information transmitting means for transmitting the information for the authentication rule, and receiving-side authenticating means for performing authentication in accordance with the authentication rule between this means and the digital AV data transmitting unit.

15. The digital AV data transceiving system according to claim 14, wherein the plurality-of-authentications digital AV data receiving unit has the

functions of the digital AV data transmitting unit and the digital AV data transmitting unit has the functions of the plurality-of-authentications digital AV data receiving unit.

16. The digital AV data transceiving system according to claim 15, wherein two or more of the digital AV data transmitting units having the functions of the plurality-of-authentications digital AV data receiving unit or two or more of the plurality-of-authentications digital AV data receiving units having the functions of the digital AV data transmitting unit are connected each other and two or more of the single-authentication digital AV data receiving units are connected so that digital AV data can be transferred each other.

17. A transmitting unit comprising:

enciphering means for enciphering digital AV data at a plurality of levels corresponding to the significance degree of the data;

authenticating means for performing authentication requested from a receiving unit for receiving the enciphered digital AV data;

level deciding means for deciding an authentication level authenticated by the authenticating means; and

decoding-information selecting means for transmitting the decoding information having levels

equal to and lower than the decided authentication level to the receiving unit in accordance with a request for the decoding information for decoding the enciphered digital AV data.

18. A receiving unit comprising:

level deciding means for an authentication level necessary to decode the enciphered data received from a transmitting unit for transmitting digital AV data enciphered at a plurality of levels corresponding to the significance degree of data;

authenticating means for requesting the authentication of the decided authentication level to the transmitting unit; and

decoding-information requesting means for requesting the decoding information for the enciphered data having levels equal to and lower than the authentication level to the transmitting unit.

19. A digital AV data transceiving system comprising:

a transmitting unit having enciphering means for enciphering digital AV data at a plurality of levels corresponding to the significance degree of the data, authenticating means for performing authentication requested from a receiving unit for receiving the enciphered digital AV data, level deciding means for

deciding an authentication level authenticated by the authenticating means, and decoding-information selecting means for transmitting the decoding information having levels equal to and lower than the decided authentication level to the receiving unit in accordance with a request for the decoding information for decoding the enciphered digital AV data; and

a receiving unit having level deciding means for deciding an authentication level necessary to decode the enciphered data received from the transmitting unit, authenticating means for requesting the authentication of the decided authentication level to the transmitting unit; and decoding-information requesting means for requesting decoding information having levels equal to and lower than the authentication level to the transmitting unit.

20. A transmitting unit comprising:

enciphering means for enciphering digital AV data at a plurality of levels corresponding to the significance degree of the data;

authenticating means for performing the authentication requested from a receiving unit for receiving the enciphered digital AV data;

level deciding means for deciding an authentication level authenticated by the authenticating means; and

decoding-information selecting means for transmitting the decoding information having levels equal to or lower than the decided authentication level to the receiving unit in accordance with a request for the decoding information for decoding the enciphered digital AV data from the receiving unit,

wherein the decoding-information selecting means transmits requested decoding information to the receiving unit without performing the authentication procedure when decoding information is next requested from the receiving unit and the request is the decoding information having a level equal to or lower than the decided authentication level.

21. A receiving unit comprising:

level deciding means for deciding an authentication level necessary to decode the enciphered data received from a transmitting unit for transmitting the digital AV data enciphered at a plurality of levels corresponding to the significance degree of data;

authenticating means for requesting the authentication of the decided level to the transmitting unit; and

decoding-information requesting means for requesting decoding information for the enciphered data

having a level equal to or lower than the authentication level to the transmitting unit,

wherein the decoding-information requesting means requests decoding information having a level equal to or lower than the authentication level without requesting the authentication when requesting the decoding information to the transmitting unit.

22. A digital AV data transceiving system comprising:

a transmitting unit having enciphering means for enciphering digital AV data at a plurality of levels corresponding to the significance degree of the data, authenticating means for performing the authenticating requested from a receiving unit for receiving the enciphered digital AV data, level deciding means for deciding an authentication level authenticated by the authenticating means, and decoding-information selecting means for transmitting decoding information having a level equal to or lower than the decided authentication level in accordance with a request for the decoding information for decoding the enciphered digital AV data to the receiving unit, wherein the decoding-information selecting means transmits requested decoding information to the receiving unit without performing the authentication procedure when the

decoding information is requested from the receiving unit and the request is the decoding information having a level equal to or lower than the decided authentication level; and

receiving unit having level deciding means for deciding an authentication level necessary to decode the enciphered data received from the transmitting unit, authenticating means for requesting the authentication of the decided authentication level to the transmitting unit, and decoding-information requesting means for requesting decoding information having a level equal to or lower than the authentication level to the transmitting unit, wherein the decoding-information requesting means for requesting decoding information having a level equal to or lower than the authentication level without performing the authentication when requesting the decoding information to the transmitting unit.

23. A digital AV data transmitting method comprising the steps of:

performing authentication for an authentication request sent from a receiving-side unit, deciding the level of the authentication; and

transmitting the decoding information of each of enciphering methods corresponding to an authenticating

method having a level equal to the authentication level and an authenticating method having a level lower than the authentication level to the receiving-side unit in accordance with a request for the decoding information sent from the receiving-side unit.

24. A digital AV data transmitting method comprising the steps of:

deciding an authentication level corresponding to the decoding information requested from a receiving-side unit;

comparing the authentication level with an authentication level executed with the receiving unit in the past, and

transmitting the decoding information requested from the receiving-side unit when the decided authentication level is equal to or lower than the past authentication level.

25. A digital AV data transmitting unit comprising:

transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules;

transmitting-side authentication selecting means for selecting one type of authentication rule from the transmitting-side plurality-of-authentication-rules storing means; and

transmitting-side authenticating means for performing authentication in accordance with the selected authentication rule,

wherein a digital AV data receiving unit or the digital AV data transmitting unit for requesting authentication, selecting one type of authentication rule from receiving-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means, and performing authentication in accordance with the selected authentication rule, or the transmitting unit selects an authentication rule in accordance with a result of deciding the significance degree of data, a unit which decides the significance degree transmits the information for the selected authentication rule to a unit which does not decide the significance degree, the unit which does not decide the significance degree selects the same authentication rule in accordance with the information.

26. A digital AV data receiving unit comprising:

at least authentication requesting means for requesting authentication to a digital AV data transmitting unit for selecting one type of

authentication rule from a transmitting-side plurality-of-authentication-rules storing means storing a plurality of authentication rules and performing authentication in accordance with the selected authentication rule;

receiving-side plurality-of-authentication rules storing means storing a plurality of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means; and

receiving-side authenticating means for performing authentication in accordance with the selected authentication rule,

wherein the transmitting unit or receiving unit selects an authentication rule in accordance with a result of deciding the significance degree of data, a unit which decides the significance degree transmits the information for the selected authentication rule to a unit which does not decide the significance degree, and the unit which does not decide the significance degree selects the same authentication rule in accordance with the information.

27. A digital AV data transceiving system comprising:

A a digital AV data transmitting unit having at least transmitting-side plurality-of-authentication-rules

storing means storing a plurality of authentication rules, transmitting-side authentication selecting means for selecting one type of authentication rule from the transmitting-side plurality-of-authentication-rules storing means, and transmitting-side authenticating means for performing authentication in accordance with the selected authentication rule; and

a digital AV data receiving unit having at least authentication requesting means for requesting the authentication, receiving-side plurality-of-authentication-rules storing means storing a plurality of type of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means, receiving-side authentication selecting means for selecting one type of authentication rule from the receiving-side plurality-of-authentication-rules storing means, and receiving-side authenticating means for performing authentication in accordance with the selected authentication rule,

wherein the transmitting unit or receiving unit selects an authentication rule in accordance with a result of deciding the significance degree of data, a unit which decides the significance degree transmits the information for the selected authentication rule to a unit which does not decide the significance degree, and

the unit which does not decide the significance degree selects the same authentication rule in accordance with the information.

A 28. A digital AV data transmitting unit comprising ~~at least:~~

transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules;

transmitting-side authentication selecting means for selecting an authentication rule same as an authentication rule selected by a digital AV data receiving unit for requesting authentication, deciding the significance degree of digital AV data, selecting one type of authentication rule from receiving-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means in accordance with the decision result, and performing authentication in accordance with the selected authentication rule from the transmitting-side plurality-of-authentication-rules storing means; and transmitting-side authenticating means for performing authentication in accordance with the selected authentication rule.

A 29. A digital AV data receiving unit comprising ~~at least:~~

authentication requesting means for requesting authentication to a digital AV data transmitting unit for selecting an authentication rule same as a predetermined authentication rule selected at the receiving side from a transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules and performing authentication in accordance with the selected authentication rule;

receiving-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing means;

data significance deciding means for deciding the significance degree of digital AV data;

receiving-side authentication selecting means for selecting one type of authentication rule from the receiving-side plurality-of-authentication-rules storing means in accordance with a decision result by the data significance deciding means; and

receiving-side authenticating means for performing authentication in accordance with the selected authentication rule.

30. A digital AV data transceiving system comprising:

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a digital AV data transmitting unit having ~~at least~~ transmitting-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules, transmitting-side authentication selecting means for selecting an authentication rule same as a predetermined authentication rule selected at the receiving side from the transmitting-side plurality-of-authentication-rules storing means, and transmitting-side authenticating means for performing authentication in accordance with the selected authentication rule; and

a digital AV data receiving unit having at least authentication requesting means for requesting the authentication, receiving-side plurality-of-authentication-rules storing means storing a plurality of types of authentication rules same as those stored in the transmitting-side plurality-of-authentication-rules storing mean, data significance deciding means for deciding the significance degree of digital AV data, receiving-side authentication

selecting means for selecting one type of authentication rule from the receiving-side plurality-of-authentication-rules storing means in accordance with a decision result by the data significance deciding means, and receiving-side authenticating means for performing authentication in accordance with the selected authentication rule.

31. A digital AV data transmitting unit comprising:
authenticating means for performing authentication by selecting one type of authentication rule out of a plurality of types of authentication rules, control criterion storing means storing a predetermined control criterion for a receiving unit, and authentication deciding means for deciding whether to perform authentication by referring to the stored control criterion when receiving an authentication request from the receiving unit,

wherein the identification information for the control criterion corresponding to the receiving unit is provided for the receiving unit for requesting the authentication from an external control center when the receiving unit has only a function for performing authentication in accordance with only a low-significance-degree authentication rule incapable of having the control criterion and the authentication

deciding means of the transmitting unit receives the identification information when requesting the authentication but cancels the authentication when the identification information is unqualified for authentication.

32. A digital AV data receiving unit comprising:
authentication requesting means for requesting authentication to a digital AV data transmitting unit having authentication deciding means for deciding whether to perform authentication by referring to a predetermined control criterion for the receiving unit stored in control criterion storing means when receiving an authentication request from the receiving unit and authenticating means for performing authentication in accordance with only the low-significance-degree authentication rule incapable of having the control criterion, to which identification information for the control criterion corresponding to the receiving unit is given from an external control center,

wherein the authentication deciding means of the transmitting unit receives the identification information when requesting the authentication but cancels the authentication when the identification information is unqualified for authentication.

33. A digital AV data transceiving system comprising:

a digital AV data transmitting unit having authenticating means for performing authentication by selecting one type of authentication rule out of a plurality of types of authentication rules, control criterion storing means storing a predetermined control criterion for a receiving unit, authentication deciding means for deciding whether to perform authentication by referring to the stored control criterion when receiving an authentication request from the receiving unit; and

a digital AV data receiving unit having for requesting the authentication to the transmitting unit and authenticating means for performing authentication in accordance with only the low-significance-degree authentication rule incapable of having the control criterion, to which the identification information for the control criterion corresponding to the receiving unit is given from an external control center,

wherein the authentication deciding means of the transmitting unit receives the identification information when requesting the authentication but cancels the authentication when the identification information is unqualified for authentication.

34. The digital AV data transmitting unit according to claim 31, wherein the predetermined control criterion is a reference list capable of identifying an illegal or unjust digital AV data receiving unit and the identification information serves as an ID for the control criterion corresponding to the receiving unit and a signature for the ID.

35. The digital AV data transmitting unit according to claim 34, wherein the authentication deciding means cancels the authentication when at least either of the ID and the signature is unqualified for authentication.

36. The digital AV data transmitting unit according to claim 34 or 35, wherein the signature is generated by using an identification ID previously intrinsically added to each receiving unit.

37. The digital AV data receiving unit according to claim 32, wherein the predetermined control criterion is a reference list capable of identifying an illegal or unjust digital AV data receiving unit and the identification information serves as an ID for the control criterion corresponding to the receiving unit or a signature for the ID.

38. The digital AV data receiving unit according to claim 37, wherein the authentication deciding means

cancels the authentication when at least either of the ID and the signature is unqualified for authentication.

39. The digital AV data receiving unit according to claim 37 or 38, wherein the signature is generated by using an identification ID previously intrinsically added to each receiving unit.

40. The digital AV data transceiving system according to claim 33, wherein the predetermined control criterion is a reference list capable of identifying an illegal or unjust digital AV data receiving unit and the identification information serves as an ID for the control criterion corresponding to the receiving unit and a signature for the ID.

41. The digital AV data transceiving system according to claim 40, wherein the authentication deciding means cancels the authentication when either of the ID and the signature is unqualified for authentication.

42. The digital AV data transceiving system according to claim 40 or 41, wherein the signature is generated by using an identification ID previously intrinsically added to each receiving unit.

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P27~~ 43. A medium storing a program for realizing all or some of functions owned by each component or step owned

~~by the unit, system, or transmitting method of any one of claims 1 to 42.~~